AGRICULTURAL POLICY:

A PROPOSED WHOLE ACREAGE BASE BUY-OUT

by

Dennis R. Henderson and Alan L. Shank
Agricultural Economists
Ohio State University

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Abstract:

A whole acreage base buy-out is proposed as a means of eliminating price and income supports in agriculture. Buy-out payments for acreage bases equal to projected 1986-1990 costs for current programs would substantially improve U.S. cost competitiveness and reduce future government outlays without making recipients worse off.

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Introduction

Farm commodity price and income support programs come under frequent attack. Criticism ranges from arguments that government expenditures substantially exceed the net benefits received by producers to arguments that the programs are perverse and self-defeating.

Alternatives to current programs have been and continue to be proposed. Proposals range from "fine tuning" such as tinkering with loan rates and/or target prices to such things as mandatory production or marketing quotas. Nearly every list of alternatives includes a "no program" or a "free market" option (see [13] for example). Indeed, the rhetoric of the Reagan Administration appears to indorse such an option as this administration's preferred course of action. [6]

Most arguments for the "no program" option are based on the concept of economic efficiency in a social welfare context. That is, they are based on the first best view that, all else equal, less government intervention in the market is preferable to more: none preferable to some.

Begging the merits of such a first best argument in a second best world, the "no program" option seldom gets pushed beyond a recognition that some type of a transition program would be needed to help those who currently receive benefits (payments, loans, etc.) adjust to program termination. Much discussion has occurred regarding such things as how the transition should be made, how long the transition period ought to be, how much compensation should be paid, ad nausea. The objectives of the "no program" option often get lost in the details of transition.

Our purpose in this paper is to present an alternative to the transition approach: "cold turkey". That is, we propose termination of commodity price and income programs with no transition. But, a one-time payment would be made to compensate the owners of claims to future income streams that are associated with the terminated programs. With this proposal, there would be no choice, no options—the programs would be eliminated and those who were entitled to program benefits would receive a lump-sum payment.

It is our contention that this approach has the potential to: (1) sharply reduce future government outlays on agricultural commodity programs while making producers no worse off, (2) enhance the cost competitiveness of U.S. agricultural products in international markets, and (3) remove some second best constraints to societal welfare optimization. We offer some analysis to support the first two contentions, but leave the third to be accepted as an article of faith.

The Basic Concept

Our discussion herewithin is limited to corn, wheat, sorghum, rice and cotton, with our most detailed analysis offered for the first two. With more data, it could be expanded to other crops for which there are federal price and income supports. Conjecturally, it could also be extended to commodities for which there are only price support programs (e.g. milk, soybeans) and quota schemes (e.g. tobacco, peanuts) but we have not yet identified all of the necessary nuances.

We call this proposal a whole acreage base buy-out. For commodities involving federal price and income supports, eligibility for program benefits is tied to established acreage bases. Without such a base, a producer cannot receive price support loans or deficiency and diversion payments. Thus, if the owner of the land upon which a base has been established loses that base, the right to receive program benefits is also lost.

Our proposal is to end these commodity programs by revoking the acreage bases. Owners would not lose the right to use the land, only the right to receive program benefits (loans and payments). Regulations on the use of the land would be reduced, if not eliminated entirely, because acreage set asides and diversions would no longer be required and there would be no base to be maintained by planting program crops, cross compliances and similar requirements. In essence, there would be no restrictions on land use from federal commodity programs per se. Soil and water conservation programs, local land use restrictions and the like, however, would not be affected.

In return for giving up the right to a future stream of government benefits (i.e. the acreage base), owners of those bases would receive a one-time cash payment. That is, the acreage base would be bought back by the federal government for a lump sum price. Thus, entitlement to benefits in the commodity programs would be converted from a flow of payments, loans, etc. throughout future years to a single capital transfer at the time of the buy-out. At least conceptually, this payment would reimburse base owners for the current value of the time-discounted flow of future (but uncertain) benefits. Thus, owners should be indifferent, all else equal.

It is generally accepted that much of the economic gain to commodity program participation has been capitalized into the value of the land that holds the qualifying acreage base (see [11] for example). Obviously, with no program, the present value of that land asset would decline. The proposed one-time capital payment is to compensate owners of these assets for this depreciation in value. Owners could invest the capital payment in other income-earning assets and/or retire land debt. In either case, the earnings that would have to be received from the land in order for the base owner to be no worse off than before would be reduced by the equivalent of the savings on debt service costs and/or earnings from alternative investments. Thus (assuming an efficient land transfer and rental market), the effective cost of using this land for crop production would be reduced by like amount.

The potential benefits of this proposal are manifold. First, it would remove a major source of government interventions in the market for these

commodities, thus removing some impediments to economic efficiency in a societal welfare context. Second, it would eliminate future government expenditures on these commodity programs. While outlays in the year that the buy-out occurs would increase by the amount that the one-time payments exceed annual program costs, thereafter there would be no further outlays. Third, producer uncertainty over the future flow of benefits from the commodity programs due to unpredictable program changes would be eliminated. Fourth, future production costs for these commodities would be lowered due to the lower land costs, thus enhancing cost competitiveness of U.S. producers in world markets.

Payments

Essential to determining the size of one-time payments for the commodity acreage bases is an assessment of the impacts of current program benefits on land values. Programs have been directed at increasing income and reducing risk experienced by participating crop farmers. This has generated an expectation of a higher income stream from land in the programs (i.e. with acreage bases) at a lower level of risk than in the absence of such programs. These expectations have made land a relatively secure and attractive investment, and much of the gain has been capitalized into land values.

During the 1960's net farm income trended generally downward, compared to the steadily increasing farm in real estate values. Following the income boom and bust in the early 1970's land values continued to trend upward, then lagging the decline in income by 7 or 8 years (Figure #1). Land rents, in general, have followed trends in land values (Figure #2). Farm land owners, therefore, rather than farm operators appear to have been the main beneficiaries from the commodity programs as well as from favorable market developments.

Melichar has shown that government programs do not alter the total required rate of return but rather the composition of the return [11]. The required rate of return is essentially the opportunity cost associated with alternative investments. He gives an example of a required rate of return of 5 percent from a given asset (e.g. land). Assuming an efficient market, and no increase in asset values, the asset will be priced such that its income stream will yield a 5 percent return. Put another way, it will sell at 20 times its earnings. If the expected increase in earnings from the asset is 3 percent per year, the value of the asset will also increase by 3 percent annually. This leaves a 2 percent return to be generated from income in order to achieve the 5 percent total rate of return. Thus, the asset will be priced at 50 times earnings.

A one time acreage base buy-out would reapportion returns toward income and away from capital appreciation. Land values would be expected to decline to levels that would generate the required rate of return based on the income expected without government program benefits. Assume (as in this example) that before the buy-out the 5 percent required rate of return consisted of 2 percent income return and 3 percent real capital appreciation. Assume that after the buy-out, expected income growth is reduced to 1 percent and thus,

real capital appreciation is also reduced to 1 percent annually. This leaves a needed return of 4 percent attributed to income. The land would have to be priced at 25 times income. That means that land that was previously priced at $1,000/acre based on an income stream of $20/year would now be priced at $500/acre. The acreage base buy-out payment would compensate the land owner for the depreciation in land value.

For the purposes of this analysis, we are somewhat arbitrarily fixing the one-time buy-out payment for wheat, corn, sorghum, rice and cotton base acres equivalent to a pro-rata share of the total projected outlays for these commodity programs between FY 1986 and FY 1990, as provided in the Food Security Act of 1985 (FSA). These expenditures are estimated at $19.67 billion for wheat, $35.77 billion for corn, $3.74 billion for sorghum, $4.28 billion for rice and $10.33 billion for cotton [9 & 13]. Where divided by the number of base acres for these commodities that existed in 1986, these outlays average $215, $434, $200, $1,019, and $725 per base acre of wheat, corn, sorghum, rice, and cotton, respectively.

We use these averages as buy-out payments for each respective commodity. Thus, total government outlays for the proposed buy-out would be the same as what they would be for these commodity programs over the five year duration of the FSA. Essentially, one could view this as an acceleration of existing commitments in order to eliminate all subsequent commitments. These payments would not have to be equal for all base acres of each commodity but could be weighted according to established yields in order to reflect differences in land quality. For example, if the average established yield on all corn base acres was 100 bushels/acre, then the buy-out payment for a base acre with a 120 bushel established yield could be put at 120 percent of the $434 average, and so on.

While a conceptually more appealing method of calculating the size of one-time payments would be to base them on a discounted present value of an entire future stream of government program benefits, we opt for the simpler calculation, above. There are two reasons: first, the entire future stream of program benefits is not known due to political and economic uncertainty, and second, our method has the political appeal of costing no more than what is already committed under current law.

Impacts

One important factor affecting the effectiveness of a base buy-out is the efficiency in which land rents reflect changes in land values. It has already been shown that cash rents and land values generally move in the same direction but not necessarily at the same rate (Figure 2). Reasons include leases that effectively span more than one year and uncertain perceptions of owners and operators as to the duration and extent of changes in land market values (rental market inefficiencies). An important impact of the buy-out to producers is lowering land cost as a factor of production. Since about one-half of the land currently cropped is rented, land rents as well as values need to efficiently reflect the buy-out payment. In order to reduce any

tendency of lag, the policy would have to be enacted quickly and decisively, convincing the industry of its finality.

One of the potential benefits of a complete base buy-out is to increase the cost competitiveness of U.S. farm commodities in export markets. Currently available data suggest that the U.S. is not cost-competitive relative to such important export competitors as Thailand, Argentina and South Africa for corn and Argentina, Canada and Australia for wheat.

Land is an important component of cost comparative competitiveness [12]. A study done by Ortmann, Stulp and Rask (OSR) concludes that "fertilizer, general overhead, capital replacement and land costs are the main factors giving rise to overall cost differences" between the U.S. and major competitors in international markets. The OSR estimates of land, nonland and total costs for producing corn and wheat in the U.S. and four major competing countries are shown in table 1. These data show that for corn, U.S. land and total production costs are exceeded only by Brazil and are almost double those of Thailand. For wheat, the U.S. has a cost disadvantage compared to two major competitors and is roughly equal to a third, Canada. Unfortunately for our purposes, OSR did not extend their analysis to sorghum, rice or cotton.

Table 1: Production Costs [a/] for Wheat and Corn in Various Countries (per metric ton, expressed in U.S. dollars at mid-1986 exchange rates.)

	Corn				
Cost/Ton	Argentina	Brazil	S. Africa	Thailand	U.S.
Land Charge [b/]	$13.97	$34.65	$17.41	$11.82	$22.48
Nonland	$71.25	$113.73	$90.73	$67.34	$96.74
Total Production	$85.22	$148.38	$108.14	$79.16	$119.22

	Wheat				
Cost/Ton	Argentina	Brazil	Australia	Canada	U.S.
Land Charge [b/]	$15.55	$33.75	$25.55	$37.92	$26.67
Nonland	$67.05	$269.40	$93.92	$124.41	$132.81
Total Production	$82.60	$303.15	$119.47	$162.33	$159.48

a/ Production costs for each country are representative of one or more years in the 1979-85 period depending on data available for the specific country, adjusted for inflation.
b/ 1985 land costs.
Source: [12]

Lower average land costs in the U.S. as a result of asset depreciation under the proposed acreage base buy-out would enhance the ability of U.S. corn and wheat growers to be more cost competitive. The average cropland value in the plains states in 1986 was $384/acre and in the cornbelt, $932/acre. Using these as representative of current average values for wheat and corn land, one-time buy-out payments of $215 and $434, respectively, would reduce wheat land costs by an average of 56 percent (215/384) and corn land costs by an average of 47 percent (434/932).

The comparative cost data shown in Table 1 are repeated in Table 2, with average U.S. land costs for corn and wheat reduced by 47 percent and 56 percent, respectively. This simulates, albeit imperfectly, the potential impact of the one-time buy-out payment on the effective cost of land as a production factor. Average U.S. production costs decline 9.4 percent for wheat and 8.9 percent for corn. For corn, this would put total U.S. production costs at about the same level as those for one major competitor, South Africa, who otherwise enjoys nearly a 10 percent cost advantage, and reduces the cost disadvantage vis-a-vis the two lowest cost competitors, Thailand and Argentina, by 26 percent and 31 percent, respectively. For wheat, the U.S. would gain an 11% cost advantage relative to Canada and its cost disadvantages relative to Argentina and Australia would decrease by 19 percent and 37 percent, respectively.

Table 2: Production Costs [a/] for Wheat and Corn in Various Countries with U.S. Land Costs Adjusted for acreage Base Buy-out Payments (per metric ton, expressed in U.S. dollars at mid-1986 exchange rates.)

	Corn				
	Argentina	Brazil	S. Africa	Thailand	U.S.
Cost					
Land Charge	$13.97	$34.65	$17.41	$11.82	$12.01
Nonland	$71.25	$113.73	$90.73	$67.34	$96.74
Total Production	$85.22	$148.38	$108.14	$79.16	$108.75

Wheat

	Argentina	Brazil	Australia	Canada	U.S.
Cost					
Land Charge b/	$15.55	$33.75	$25.55	$37.92	$11.73
Nonland	$67.05	$269.40	$93.92	$124.41	$132.81
Total Production	$82.60	$303.15	$119.47	$162.33	$144.54

a/ Production costs for each country are representative of one or more years in the 1979-85 period depending on data available for the specific country, adjusted for inflation.

b/ 1985 land costs for all countries except U.S. which is adjusted for acreage base buy-out payments. Calculations for U.S. land costs are:

Corn: $\frac{\$434 \text{ payment}}{\$932 \text{ avg. land value}} = .47$

$\$22.48 - (\$22.48 \times .47) = \$12.01$

Wheat: $\frac{\$215 \text{ payment}}{\$384 \text{ avg. land value}} = .56$

$\$26.67 - (\$26.67 \times .56) = \$11.73$

Obviously, this analysis assumes that a change of this magnitude in U.S. costs of production would have no impact on foreign costs, which is doubtful. In reality, such a change would be expected to exert downward pressure on land costs in competing countries, thus reducing the net competitive cost gains for the U.S. An assessment of such "spillover" effects would be insightful. Nonetheless, it does seem reasonably clear that the relative cost position of U.S. producers would be improved.

Another type of comparison is to approximate the effect of lower land costs on U.S. commodity prices relative to those of some major competitors. Recent prices for the U.S. and some of its competitors for wheat, corn, rice and cotton are shown in Table 3. Land cost reductions for sorghum, rice and cotton of 43 percent, 95 percent and 81 percent, respectively, are arrived at in the same way as for corn and wheat in Table 2. The U.S. "before" and "after" prices in Table 3 show these cost reductions, directly reflected as changes in absolute values of U.S. f.o.b. prices. In the case of rice, U.S. prices would fall from the highest to the lowest, compared to Burma and Thailand. For cotton, the U.S. price would fall below its major competitor (USSR) and distance itself further from Turkey and Egypt. In wheat the U.S. price would fall well below Australia and close to that of Argentina. For corn the U.S. price would fall to the bottom of the price ladder against a major competitor.

While methodologically these latter comparisons suffer even more than do the earlier cost comparisons, they do provide insight into the magnitudes of competitive pressures that the U.S. could generate in world markets.

Another potential advantage of the proposed acreage base buy-out is the reduction of future federal government outlays on farm programs. The buy-out

Table 3: 1985 Prices[a/] for Wheat, Corn, Rice and Sorghum and 1982-83 Prices for Cotton in Various Countries, Expressed in U.S. Dollars at the Exchange Rates for that Current Year.

$/MT	Rice	Cotton	Wheat	Corn	Sorghum
Burma	67.4	*	*	*	*
Thailand	74.1	*	*	*	*
USSR	*	1565	*	*	*
Turkey	*	1840	*	*	*
Egypt	*	2427	*	*	*
Argentina	*	*	135	132	*
Australia	*	*	153	*	*
Canada	*	*	166	*	*
U.S.-before	76.3	1662	153	138	119
-after	48.0	1487	138	129	110

a/ Prices for respective commodities are f.o.b. or wholesale depending on availability of data.
* Not available
Source: compiled from [2], [5], [10].

of corn and wheat base acres as analyzed herein would be a "wash" for government outlays during the five year period currently covered by the FSA of 1985, given the way that we calculated the size of the payments. Clearly, the distribution of outlays would be accelerated within the five year period. Equally clear, however, is a high probability that commodity programs will be continued in some form beyond 1990 in the absence of something along the lines of the proposed buy-out. What the future cost of such programs would be is not known.

Total outlays for the final year of the FSA, 1990, on wheat and corn programs alone are currently estimated at roughly $9 billion. If we assume the same level of annual expenditures for each of the following 5 and 10 years, elimination of these programs would total to $45 and $90 billion, respectively, in nominal dollar savings. If discounted at 7 percent, the present value of such savings would be about $32 and $46 billion, respectively. Obviously, if the buy-out was extended to other commodities, direct savings in future government outlays would be even more significant. Further, elimination of these commodity programs would substantially reduce the private costs associated with uncertainty over future benefit levels and with political action to affect such levels.

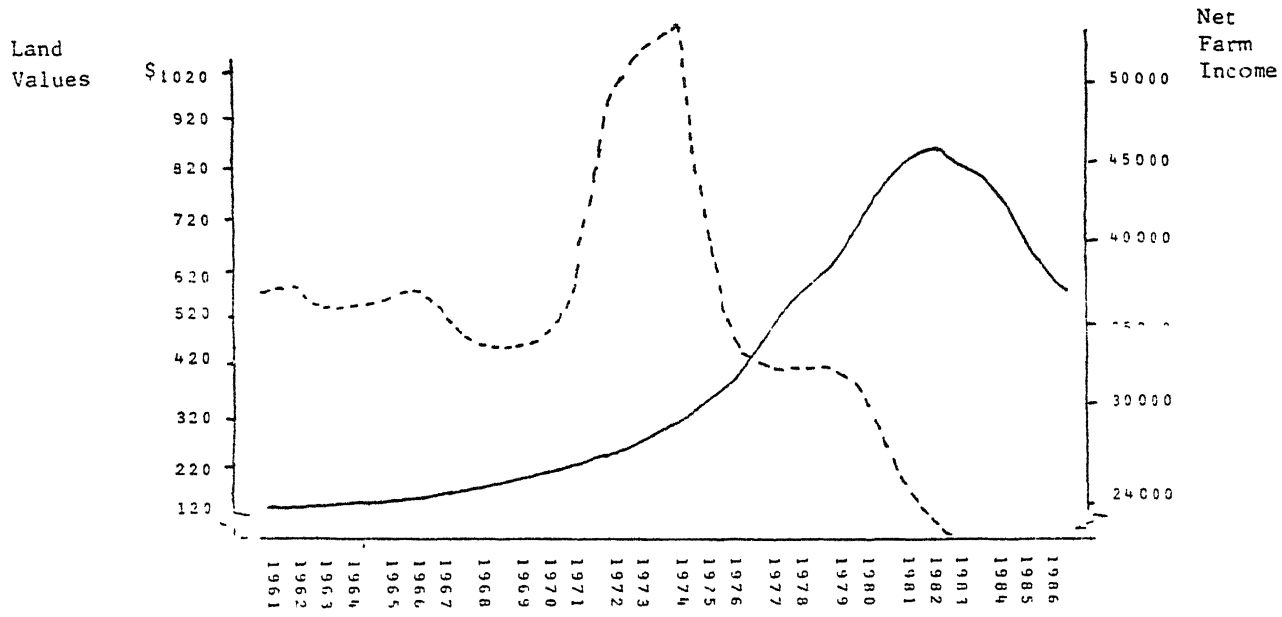

Figure 1. Average Farmland Values and Total Net Farm Income, U.S., 1961-1986

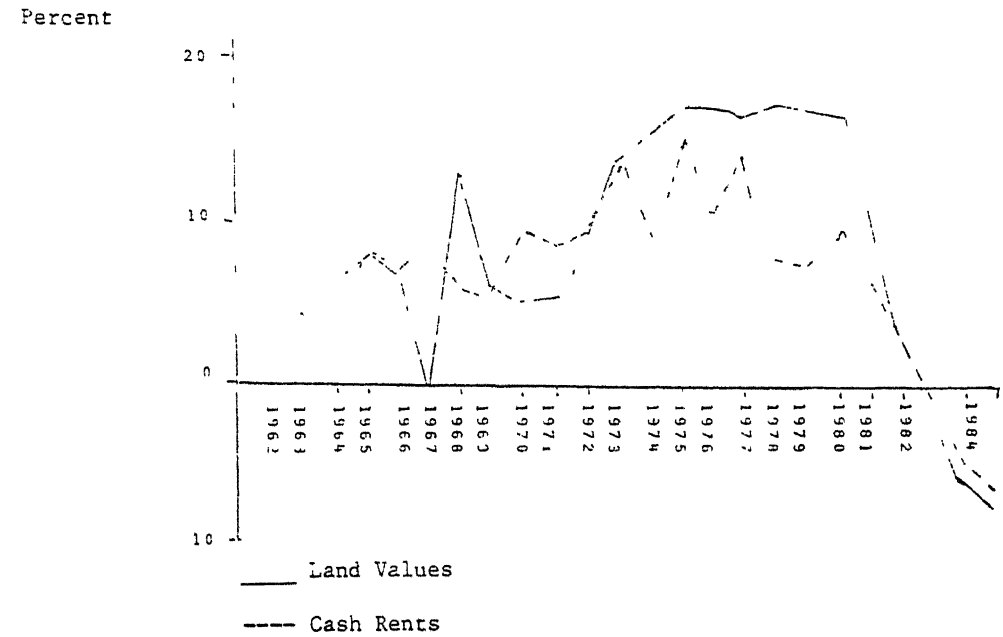

Figure 2. Percentage Changes in Farmland Values and Cash Farmland Rents, U.S., 1962-1985 (Three year moving averages)

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